

1.2.1 Service brake: Effect

Validities

BMW i, BMW passenger cars, MINI passenger cars, Rolls-Royce passenger cars

Official method according to EG PTI:

Operate the brakes on a brake test stand or, if this is not possible, during a road test gradually increasing up to the maximum brake force.

Fault determination according to EG PTI:

a)	Insufficient brake force at one or more wheels or no brake force at one or more wheels.
b)	Brake force at one wheel less than 70% of the maximum brake force applicable at the other wheel of the same axle. Or, in the event of a road test, excessive deviation of the vehicle from straight-ahead running. Brake force at one wheel of steered axles less than 50% of the maximum brake force applicable at the other wheel of the same axle.
c)	Brake force is not gradual (grabbing).
d)	Response time of the brake at one of the wheels too long.
e)	Heavy fluctuation of the brake force during every full wheel rotation.

Methods according to vehicle manufacturer

Braking on the test stand

i

TECHNICAL INFORMATION

With all-wheel drive vehicles, the test stand is detected automatically.

i

TECHNICAL INFORMATION

Only brake test stands with test speeds between 2.5 km/h and 6 km/h may be used.

Necessary preliminary work:

- Check tyres for damage.
- Check tyre tread.
- Check the tyre pressure.
- The brakes must be at normal operating temperature. To that end, warm up and dry off the brake discs by braking the vehicle a few times.

Front brakes:

- Drive the front axle of the vehicle onto the brake test stand.
- Place the selector lever in selector lever position (N).
- Start brake test stand.
- Press service brake pedal.
- Read off maximum brake force on the left / right.

Rear brakes:

- Drive the front axle of the vehicle onto the brake test stand.
- Place the selector lever in selector lever position (N).
- Start brake test stand.
- Press service brake pedal.
- Read off maximum brake force on the left / right.

Braking on the test stand with F25 F26**Prerequisite**

- Check tyres for damage.
- Check tyre tread.
- Check the tyre pressure.



TECHNICAL INFORMATION

- Make sure the Hill Descent Control (HDC) is not active before driving on to the brake test rig!
 - The Hill Descent Control (HDC) indicator light must not be on!
 - Only brake test stands with test speeds between 2.5 km/h and 6 km/h may be used.
 - Max. bedding-in time 2 minutes.
 - You must follow without fail the regulation contained in the operating instructions of the relevant test stand manufacturer.

Attention!

The brakes must be at normal operating temperature. To do so, gently warm up the brake discs and brake drums while dry by braking the vehicle several times.

- **Failure to do so may result in damage to the vehicle and the system and also personal injury.**

Front axle on brake test rig: Attention!

- No gear or drive range must be engaged! Selector lever position "Neutral" on automatic transmission vehicles.
- Do not press accelerator!
- Disregard of these instructions will result in the transfer box engaging, forcing the vehicle off the brake test stand!

Drive vehicle on to brake test rig and carry out brake test.

Rear axle on brake test rig: Attention!

- No gear or drive range must be engaged! Selector lever position "Neutral" on automatic transmission vehicles.
- Do not press accelerator!
- Disregard of these instructions will result in the transfer box engaging, forcing the vehicle off the brake test stand!

Drive vehicle onto brake test stand



TECHNICAL INFORMATION

- The vehicle utilises a plausibility check (wheel speed comparison) to detect the brake test rig within a few seconds and switches to brake test rig mode.
 - The parking brake indicator light flashes slowly when brake test stand mode is activated and EMF actuators are released.

Following indicator lights are permanently on:

- Parking brake.
- Brake system.
- Dynamic Stability Control (DSC).
- Antilock Brake System (ABS).
- Press parking brake button according to the application of the brake pads.



TECHNICAL INFORMATION

The parking brake indicator light flashes quickly when brake test stand mode is activated and EMF actuators are partially locked.

- Press parking brake button = test force 1.
- Press parking brake button = test force 2.
- Press parking brake button = test force 3.
- The parking brake is released again when the button is actuated in the Release direction.



TECHNICAL INFORMATION

- The parking brake indicator light is permanently activated when brake test stand mode is not detected and EMF actuators are fully locked.
 - Brake test stand mode is automatically terminated when the vehicle is driven off the brake test stand.
 - Brake test stand mode is automatically terminated when the vehicle is driven off the brake test stand.
 - All indicator lights go out automatically!

Braking at test stand i01 i12



TECHNICAL INFORMATION

- Only brake test stands with test speeds between 2.5 km/h and 6 km/h may be used.
 - Before using the brake test stand with the rear axle, roller operation must be activated on the instrument cluster (see the following instructions).
 - It is not possible to check the electromechanical parking brake on a plate test stand!
 - **i01:** It is not permissible to use the brake test stand with the rear axle if roller operation has not been activated!
 - When roller operation is activated, hold steering wheel in straight-ahead position, steering wheel movements deactivate roller operation!

Necessary preliminary work:

- Check tyres for damage.
- Check tyre tread.
- Check the tyre pressure.
- The brakes must be at normal operating temperature. To that end, warm up and dry off the brake discs by braking the vehicle a few times.



TECHNICAL INFORMATION

Before using the brake test stand with the rear axle, roller operation must be activated on the instrument cluster (see the following instructions).

Figure :i01



Figure :112

- Roller operation is activated using the kilometre reset button (1). Keep pressing reset button until the main menu is displayed in the centre of the instrument cluster.
- In main menu, select the "03 Start roller" menu item using the reset button.
- Quit the "03 Roller Operation" menu item by pressing the reset button.
- Roller operation is shown in the display with the message "Start ESC OFF". Press the reset button to start roller operation.
- The warning light and the message "Test operation ends during start of the journey" light up on the display. The brake test can now be performed.

Front brakes:

- Drive the front axle of the vehicle onto the brake test stand.
- Place the selector lever in selector lever position (N).
- Start brake test stand.
- Press service brake pedal.
- Read off maximum brake force on the left / right.

Rear brakes:

- Drive the rear axle of the vehicle onto the brake test stand.
- Place the selector lever in selector lever position (N).
- Start brake test stand.
- Press service brake pedal.
- Read off maximum brake force on the left / right.

1.3.1 Auxiliary brake (emergency braking): Effect

Validities

BMW PASSENGER CAR, BMW i, MINI PASSENGER CAR, ROLLS-ROYCE

Official method according to EG PTI:

Apply the test procedure described in 1.2.1 for an auxiliary brake system that is separate from the service brake system.

Fault determination according to EG PTI:

a)	Insufficient or no brake force at one or more wheels.
b)	Brake force at one wheel less than 70% of the maximum brake force applicable at the other wheel of the same axle. Or, in the event of a road test, excessive deviation of the vehicle from straight-ahead running. Brake force at one wheel of steered axles less than 50% of the maximum brake force applicable at the other wheel of the same axle.
c)	Brake force is not gradual (grabbing).

Methods according to vehicle manufacturer

Refer to chapter 1.1.6 on the parking brake (electronic and mechanical), a separate system is not installed for BMW.

Turning brake disc

1 Twist off the brake disc



TECHNICAL INFORMATION

The training video illustrates the methodology for turning the brake disc.

The training video does not replace the repair instructions.

The training video is not subject to the update service.

No liability can be accepted for printing or other faults.

Subject to changes of a technical nature.

- Follow repair instructions!



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Subject to changes of a technical nature.

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The training video does not replace the repair instructions.

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No liability can be accepted for printing or other faults.

Subject to changes of a technical nature.

- Follow repair instructions!

1.1.6 Duo-servo parking brake

Validities

BMW passenger cars, MINI passenger cars, ROLLS-ROYCE

Official method according to EG PTI:

Visual inspection of the components when operating the brake system.

Fault determination according to EG PTI:

a)	Ratchet does not lock properly.
b)	Wear on lever bearing or ratchet mechanism.
c)	Excessive lever travel due to incorrect setting.
d)	Actuating device missing, damaged or inoperative.
e)	Faulty function, indicator light displays malfunction.

Required preliminary work for the test stand

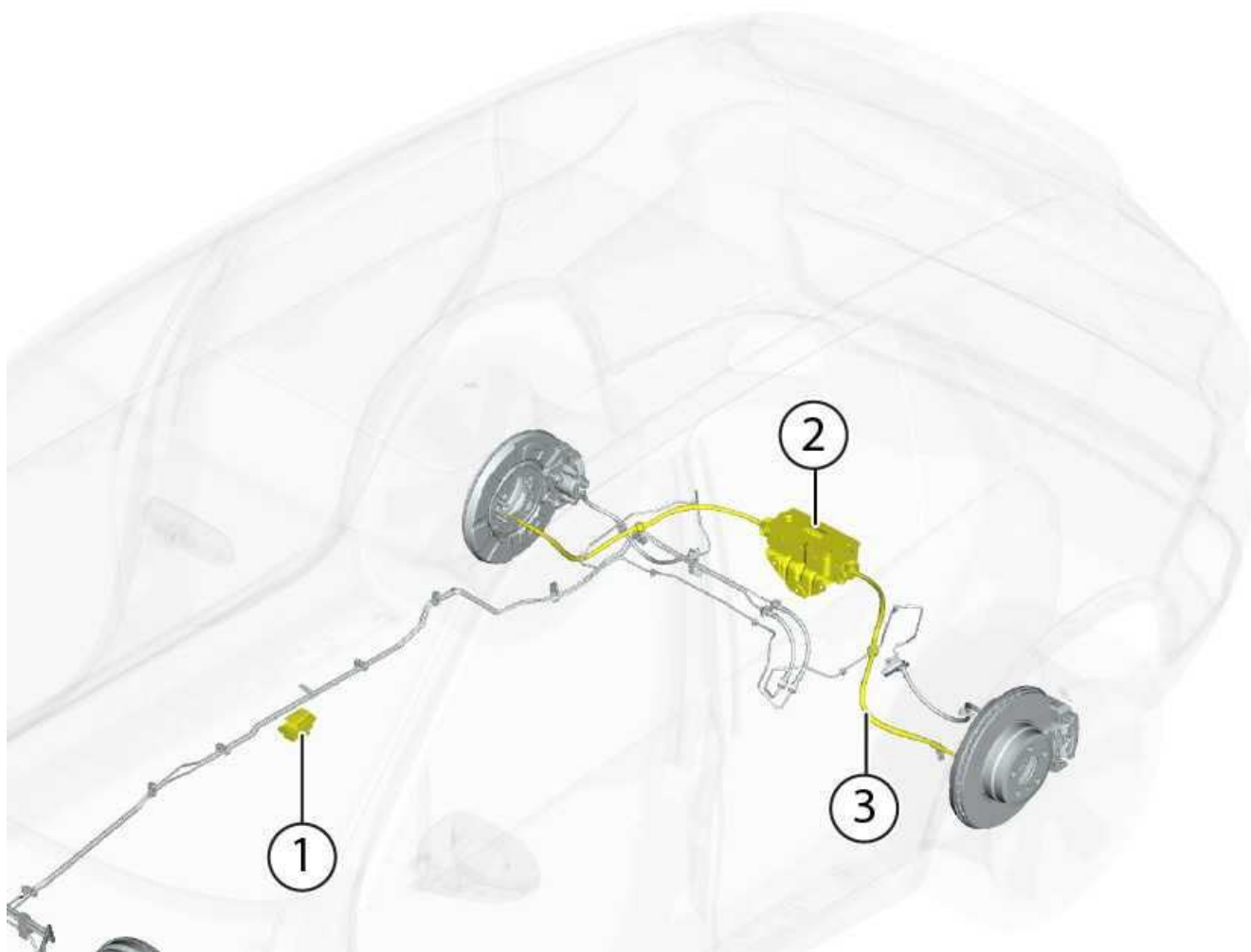


TECHNICAL INFORMATION

Only brake test stands with test speeds between 2.5 km/h and 6 km/h may be used.

- Check tyres for damage
- Check tyre treads
- Checking tyre pressure
- The brakes must be at normal operating temperature. To that end, warm up and dry off the brake discs by braking the vehicle a few times.

Methods according to vehicle manufacturer



- 1 Electromechanical parking brake button
- 2 Servomotor
- 3 Cable



TECHNICAL INFORMATION

The check may only be carried out when the engine is switched off, the selector lever is in selector lever position (N) and the ignition is switched on.



TECHNICAL INFORMATION

It is not possible to check the electromechanical parking brake on a plate test stand!

Brake test on test stand:

Parking brake

- Drive the rear axle of the vehicle onto the brake test stand.
- Place the selector lever in selector lever position (N).
- Stop engine.



TECHNICAL INFORMATION

When the engine is running, additional braking effect will otherwise be exerted by the DSC system on all the wheels.

- Otherwise the DSC system generates an additional braking effect on all wheels.
- Switch on the ignition.
- Start brake test stand.

Activate the parking brake, for this purpose pull the button.



TECHNICAL INFORMATION

- Electromechanical holding brake indicator light lights up red on the display.
 - Duo-servo parking brake (servomotor) is applied.
 - Brake test stand switches off after wheels lock up (slip) or vehicle is pushed off the brake test stand.
-
- Read off maximum brake power on left / right
 - Deactivate parking brake: - Press the button and simultaneously press the service brake pedal (*note: duo-servo parking brake (servomotor) is released.*)

1.1.6 Electronic parking brake

Validities

BMW i, BMW passenger cars, MINI passenger cars, Rolls-Royce passenger cars

Official method according to EG PTI:

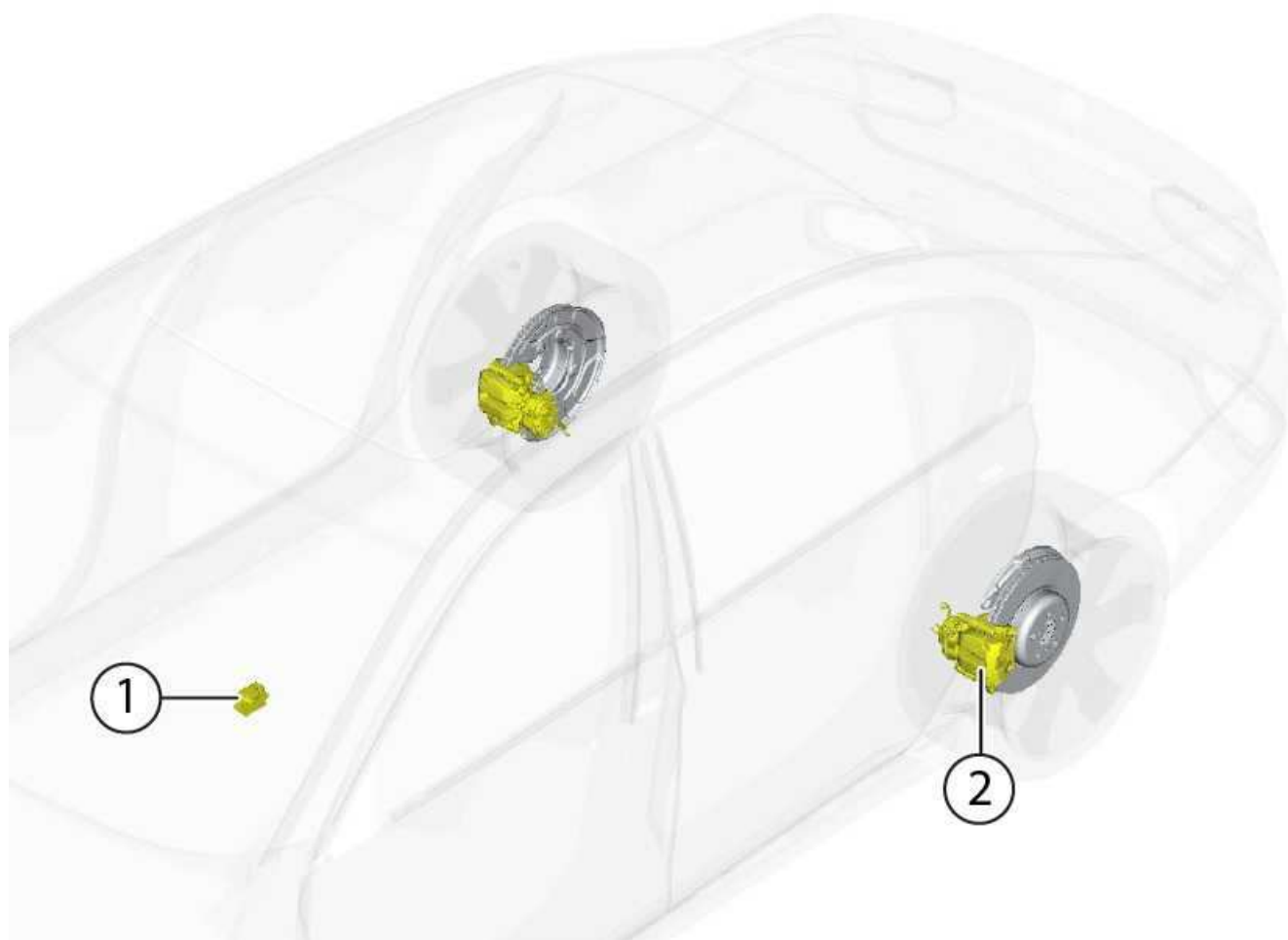
Visual inspection of the components when operating the brake system.

Fault determination according to EG PTI:

a)	Ratchet does not lock properly.
b)	Wear on lever bearing or ratchet mechanism.
c)	Excessive lever travel due to incorrect setting.
d)	Actuating device missing, damaged or inoperative.
e)	Faulty function, indicator light displays malfunction.

Methods according to vehicle manufacturer:

Electromechanical parking brake



1 Parking brake operation switch

2 Brake calliper

Prerequisite

- Check tyres for damage.
- Check tyre tread.
- Check the tyre pressure.
- The brakes must be at normal operating temperature.
- To that end, warm up and dry off the brake discs by braking the vehicle a few times.



TECHNICAL INFORMATION

Only brake test stands with test speeds between 2.5 km/h and 6 km/h may be used.

Check without brake test stand

- Switch the ignition on. In this process, ensure that no gear is engaged!
- Visual inspection whether indicator lights and warning lights light up in the instrument cluster.
- Indicator lights must go out after a maximum of 5 seconds.
- A fault has occurred if the indicator and warning lights do not light up upon switching on the ignition or if they fail to go out after approximately 2-3 seconds.

Description of the parking brake



TECHNICAL INFORMATION

Follow notes for Brake testing for test stand.

The parking brake test must be carried out on the dynamic brake test stand as follows.

- Release position (engine off/ignition on).
- Wheel circumferential force on the right/left ≤ 300 N.

Press the parking brake button (engine off/ignition on):

- Vehicle must be evenly pulled from the brake test stand and/or the motor of the brake test stand is switched off on both sides.

Parking brake functional check

- Drive vehicle onto brake test stand
- The electromechanical parking brake control unit detects the brake test stand within a few seconds with a plausibility check (comparison of wheel speeds) and it activates brake test stand mode.
- The parking brake indicator light flashes slowly when brake test stand mode is activated and EMF actuators are released.
- Press parking brake button according to the application of the brake pads.
- The parking brake indicator light flashes quickly when brake test stand mode is activated and EMF actuators are partially locked.
- Press parking brake button = test force 1.
- Press parking brake button = test force 2.
- Press parking brake button = test force 3.
- The parking brake is released again when the button is actuated in the Release direction.
- The parking brake indicator light is permanently activated when brake test stand mode is not detected and EMF actuators are fully locked.
- The brake test stand mode is automatically terminated when the vehicle is driven off the brake test stand.

F85, F86 parking brake description



TECHNICAL INFORMATION

Only brake test stands with test speeds between 2.5 km/h and 6 km/h may be used.

Perform brake test on test stand

Necessary preliminary work:

- Check tyres for damage.
- Check tyre tread.
- Check the tyre pressure.
- The brakes must be at normal operating temperature. To that end, warm up and dry off the brake discs by braking the vehicle a few times.



TECHNICAL INFORMATION

The check may only be carried out when the engine is switched off, the selector lever is in selector lever position (N) and the ignition is switched on.



TECHNICAL INFORMATION

It is not possible to check the electromechanical parking brake on a plate test stand!

Parking brake:

- Drive the rear axle of the vehicle onto the brake test stand.
- Position the selector lever in selector lever position (N).
- Stop engine.



TECHNICAL INFORMATION

When the engine is running, additional braking effect will otherwise be exerted by the DSC system on all the wheels.

- Switch on the ignition.
- Start brake test stand.
- Activate the parking brake, for this purpose pull the button.



TECHNICAL INFORMATION

- Parking brake indicator light lights up red on the display.
- Duo-servo parking brake (servomotor) is applied.
- Brake test stand switches off after wheels lock up (slip) or vehicle is pushed off the brake test stand.

- Read off maximum brake force on the left / right.
- Deactivate parking brake: Press the button and simultaneously press the service brake pedal.

Duo-servo parking brake (servomotor) is released.

Description of the parking brake

The parking brake test must be carried out on the dynamic brake test stand as follows:

- Release position (engine off/ignition on).
- Wheel circumferential force, right/left ≤ 300 N.

Press the parking brake button (engine off/ignition on):

- Vehicle must be evenly pulled from the brake test stand and/or the motor of the brake test stand is switched off on both sides.

Parking brake functional check

- Drive the rear axle of the vehicle onto the brake test stand.
- Place the selector lever in selector lever position (N).
- The electromechanical parking brake control unit detects the brake test stand within a few seconds with a plausibility check (comparison of wheel speeds) and it activates brake test stand mode.
- The parking brake indicator light flashes slowly when brake test stand mode is activated and EMF actuators are released. Start brake test stand.
- Press parking brake button according to the application of the brake pads.
- The parking brake indicator light flashes quickly when brake test stand mode is activated and EMF actuators are partially locked.
- Press parking brake button = test force 1.
- Press parking brake button = test force 2.
- Press parking brake button = test force 3.
- Read off maximum brake force on the left / right.
- The parking brake is released again when the button is actuated in the Release direction.
- The brake test stand mode is automatically terminated when the vehicle is driven off the brake test stand.

Description of the parking brake

- Position the vehicle with its rear axle on the brake test stand.
- Position the selector lever in selector lever position N (neutral).
- **Run engine at idle speed.**
- The brake test stand starts automatically.
- The control unit runs a plausibility check (comparison of wheel speed) to identify within a few seconds that a vehicle is on the brake test stand and changes to brake test stand mode.
- If brake test stand mode has been activated and the EMF actuators are open, the indicator light for the electromechanical parking brake flashes slowly.
- Press the parking brake button: application of brake pads; when brake test stand mode is active and the EMF actuators have been partly applied, the indicator light for the electromechanical parking brake flashes quickly.
- Press the parking brake button: brake test with test force 1
- Press the parking brake button: brake test with test force 2
- Press the parking brake button: brake test with test force 3
- Read the maximum brake forces on the left and right.
- Release parking brake button 1. This releases the parking brake.
- Move the vehicle from the brake test stand. Brake test stand mode is automatically quit upon driving off the brake test stand.
- **After having completed the brake tests: Perform terminal change.**
- All indicator lights go out after having completed the terminal change.

Description of the parking brake



TECHNICAL INFORMATION

- It is not possible to check the electromechanical parking brake on a plate test stand!
 - i01: It is not permissible to use the brake test stand with the rear axle if roller operation has not been activated!
 - When roller operation is activated, hold steering wheel in straight-ahead position, steering wheel movements deactivate roller operation!

Necessary preliminary work:

- Check tyres for damage
- Check tyre treads
- Checking tyre pressure
- The brakes must be at normal operating temperature. To that end, warm up and dry off the brake discs by braking the vehicle a few times.



TECHNICAL INFORMATION

Before using the brake test stand with the rear axle, roller operation must be activated on the instrument cluster (see the following instructions).

Figure :i01



Figure :l12

- Roller operation is activated using the kilometre reset button (1). Keep pressing reset button until the main menu is displayed in the centre of the instrument cluster.
- In main menu, select the "03 Start roller" menu item using the reset button.
- Quit the "03 Roller Operation" menu item by pressing the reset button.
- Roller operation is shown in the display with the message "Start ESC OFF". Press the reset button to start roller operation.
- The warning light and the message "Test mode ends during start of the journey" lights up on the display. The brake test can now be performed.

Parking brake:

- Drive the rear wheels of the vehicle onto the brake tester
- Place the selector lever in selector lever position (N)
- Start the brake test stand
- Wait until the parking brake indicator light flashes slowly
- Press parking brake button according to the application of the brake pads.
- The parking brake indicator light flashes quickly when brake test stand mode is activated and EMF actuators are partially locked.
- Press parking brake button = test force 1.
- Press parking brake button = test force 2.
- Press parking brake button = test force 3.
- The parking brake is released again when the button is actuated in the Release direction.



TECHNICAL INFORMATION

Roller operation is automatically deactivated after a terminal change!

1.1.6 Parking brake, operating lever, reversible ratchet

Validities

BMW i, BMW passenger cars, MINI passenger cars, Rolls-Royce passenger cars

Official method according to EG PTI:

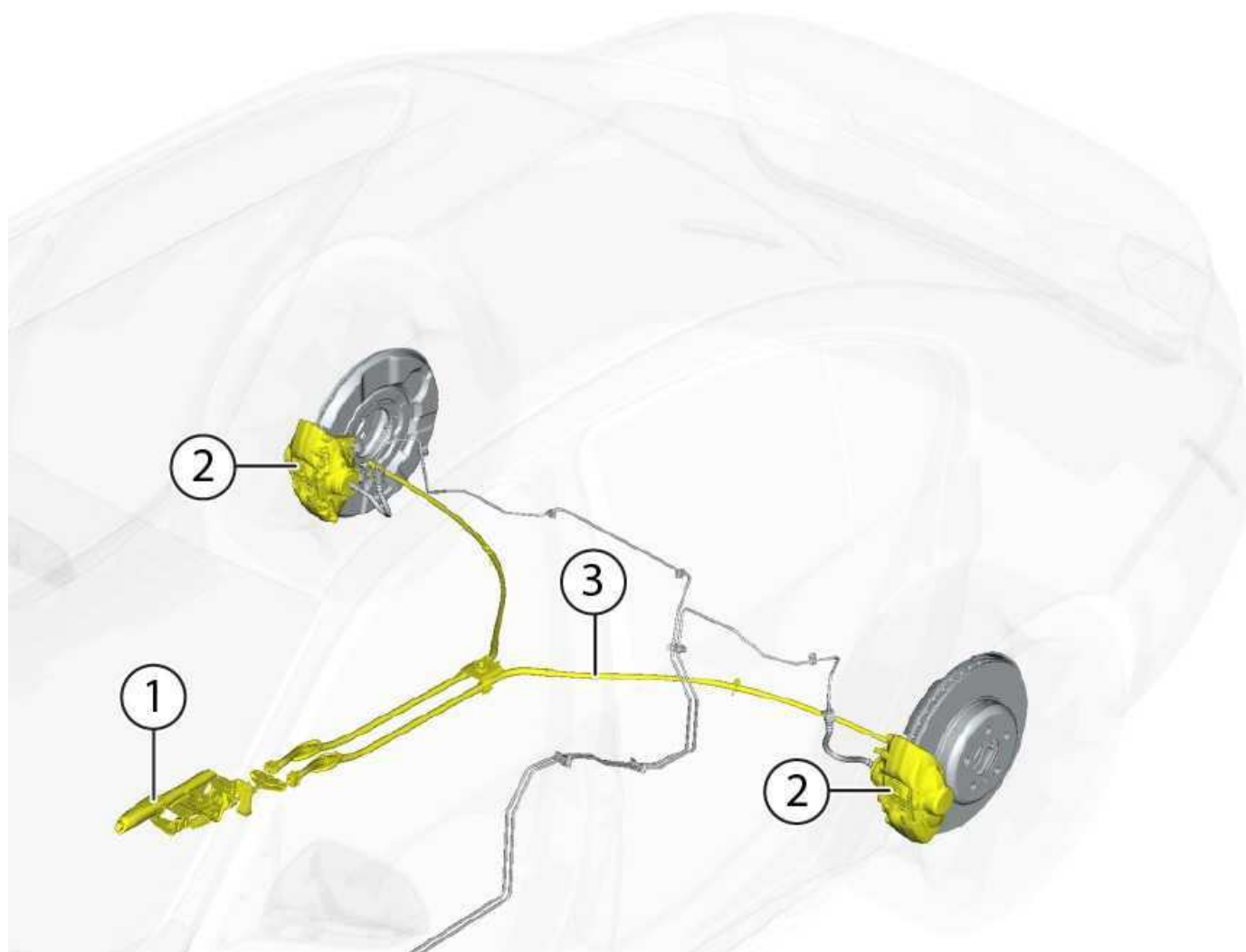
Visual inspection of the components when operating the brake system.

Fault determination according to EG PTI:

a)	Ratchet does not lock properly.
b)	Wear on lever bearing or ratchet mechanism.
c)	Excessive lever travel due to incorrect setting.
d)	Actuating device missing, damaged or inoperative.
e)	Faulty function, indicator light displays malfunction.

Methods according to vehicle manufacturer:

Mechanical parking brake



1 Parking brake lever

2 Brake calliper

3 Brake line

Preconditions

Switch the ignition on. In this process, ensure that no gear is engaged!

Parking brake that directly acts upon the service brake pads or also separate brake shoes in separate brake drums via a cable using variable force applied by hand or with the foot which can be operated while the vehicle is moving.

Check by hand:

- When 1st ratchet is engaged, no braking force should be exerted.
- Braking with locked wheels must be possible with the parking brake.
- The parking brake must be readjusted if the operating travel at the parking brake lever is greater than ten teeth.

Check on the test stand:

1. Carry out the following conditioning prior to testing the actual effect:

- Pull the parking brake lever up to at maximum the 8th tooth three times.
- Drive the vehicle onto the brake test stand, apply the parking brake lever on the running test stand rollers until a wheel circumferential force of approximately 700 N applies (per wheel).
- Once again release the parking brake lever after 1 minute and carry out the actual brake force measurement.

2. Brake force measurement:

- Completely apply the parking brake lever.

3. Brake force assessment: The following applies to these parking brake designs:

- Minimum braking 16% of the permissible total weight or blocking limit.
- Permissible right/left deviation at maximum 50% of the corresponding, higher value.



Testing instructions for systems:

- Visual inspection whether indicator lights and warning lights light up in the instrument cluster.
- Indicator lights must go out after a maximum of 5 seconds.
- A fault has occurred if the indicator and warning lights do not light up upon switching on the ignition or if they fail to go out after approximately 2-3 seconds.

Examples of potential faults in the braking and stabilising system:

- (1) = Drive-off assistant failed (also lights up when the parking brake has been applied).
- (2) = Insufficient brake fluid quantity.
- (3) = Driving dynamics system including ABS failed.
- (4) = DSC (Dynamic Stability Control) suspension control systems failed.

Description of the parking brake



TECHNICAL INFORMATION

Follow notes for Brake testing for test stand.



TECHNICAL INFORMATION

If deviations are identified during the following check, the parking brake must be adjusted:

The parking brake test must be carried out on the dynamic brake test stand as follows:

- Release position (engine off/ignition on).
- Wheel circumferential force, right/left ± 300 N.

Press the parking brake button (engine off/ignition on):

- Vehicle must be evenly pulled from the brake test stand and/or the motor of the brake test stand is switched off on both sides.

Parking brake functional check

Drive vehicle onto brake test stand

Warm up the parking brake by applying it several times until the wheels block.

Check the parking brake:

- Vehicles with manual transmission: Gearshift lever in idle position.
- Vehicles with automatic transmission: Selector lever in selector lever position (N).
- Gradually apply the parking brake lever.
- Significantly measurable braking must be recorded from the 5th tooth.
- Keep applying the parking brake lever until the wheels block.
- Read the brake forces of the left and right rear wheel.

Assessment: The total of both wheel brake forces must be at minimum 16 % of the permissible total weight of the vehicle.

The maximum permitted brake force differential between right/left must not exceed 50 % (in relation to the greater brake value).

1.4.1 Parking brake: Effect

Validities

BMW PASSENGER CAR, BMW i, MINI PASSENGER CAR, ROLLS-ROYCE

Official method according to EG PTI:

Brake actuation during the check on a brake test stand.

Fault determination according to EG PTI:

Brake without effect on one side or in the event of a road test, excessive deviation of the vehicle from straight-ahead running.

Methods according to vehicle manufacturer

Refer to chapter 1.1.6 on the parking brake (electronic and mechanical), a separate system is not installed for BMW.

1.6 Antilock Brake System (ABS)

Validities

BMW PASSENGER CAR, BMW i, MINI PASSENGER CAR, ROLLS-ROYCE

Official method according to EG PTI:

Visual inspection and check the warning device and/or use electronic vehicle interface.

Fault determination according to EG PTI:

a)	Warning device damaged.
b)	Warning device shows system malfunction.
c)	Wheel speed sensors missing or damaged.
d)	Cable damaged.
e)	Other components missing or damaged.
f)	System outputs an errors via the electronic vehicle interface.

Methods according to vehicle manufacturer



If the indicator light flashes yellow, the ABS is switched off due to a fault. The normal braking effect is present without restrictions. If the ignition is started in the vehicle, a PRE vehicle check is automatically run.

Assessment: Serious fault (e-motor)

- The indicator light in the instrument cluster goes out shortly after starting the engine.
- The indicator light lights up permanently: DSC is switched off via the button. Switch on DSC through button. Light goes out.
- The indicator light and the brake warning light glow permanently: DSC, fault code and Dynamic Brake Control are disturbed.

Assessment: Serious fault (e-motor)

1.7 Electronic brake system (EBS)

Validities

BMW PASSENGER CAR, BMW i, MINI PASSENGER CAR, ROLLS-ROYCE

Official method according to EG PTI:

Visual inspection and check the warning device and/or use electronic vehicle interface.

Fault determination according to EG PTI:

a)	Warning device damaged.
b)	Warning device shows system malfunction.
c)	System outputs an error via the electronic vehicle interface.

Methods according to vehicle manufacturer:

Status 01.01.2018: not relevant to BMW Group vehicles.

1.1.13 Brake pads

Validities

BMW PASSENGER CAR, BMW i, MINI PASSENGER CAR, ROLLS-ROYCE

Official method according to EG PTI:

Visual inspection

Fault determination according to EG PTI:

a)	Brake pad excessively worn (minimum thickness indicator reached).
b)	Brake pad dirty (oil, grease, etc.), impaired braking effect.
c)	Brake pad missing or incorrectly mounted.

Methods according to vehicle manufacturer



The wear indicator indicates an existing defect at the brake pads.

Exception: with series F56 it may be that no wear sensor has been installed. In this case carry out a visual inspection.

1.1.14 Brake drums, brake discs

Validities

BMW PASSENGER CAR, BMW i, MINI PASSENGER CAR, ROLLS-ROYCE

Official method according to EG PTI:

Visual inspection

Fault determination according to EG PTI:

a)	Brake drum or brake disc worn or severely worn, with excessive formation of grooves, component cracked, unsafe or fractured.
b)	Brake drum or brake disc dirty (oil, grease, etc.). Impaired braking effect.
c)	Brake drum or brake disc missing.
d)	Armature plate unsafe.

Methods according to vehicle manufacturer:

Minimum brake disc thickness

Test specification § 29 limit value for brake disc thickness:

- BMW, MINI and Rolls-Royce vehicles: **Nominal dimension minus 2.4 mm**
- BMW M GmbH vehicles (perforated brake disc): **Nominal dimension minus 1.6 mm**. This limit dimensions is also applicable to perforated brake discs which are fitted on BMW AG vehicles as optional accessories! This limit value does not apply to carbon ceramic brakes.
- **Minimum thickness of brake pads:** 3 mm. This corresponds to when the brake pad wear indicator initially lights up and applies to all BMW Group vehicles.

Falling below the aforementioned limit value must be assessed as 'significant damage' ("EM")!

Brake disc dimensions with 08.6 mm thickness

- 280x8.6

Brake disc dimensions with 10 mm thickness

- 259x10
- 280x10
- 296X10

Brake disc dimensions with 11 mm thickness

- 290X11

Brake disc dimensions with 14 mm thickness

- 312x14

Brake disc dimensions with 19 mm thickness

- 330x19

Brake disc dimensions with 20 mm thickness

- 280x20
- 300X20
- 320x20
- 324x20
- 330X20

Brake disc dimensions with 22 mm thickness

- 200x22
- 280x22
- 282X22
- 284X22
- 294x22
- 300X22

Brake disc dimensions with 24 mm thickness

- 300x24
- 307x24
- 312x24
- 330x24
- 345x24
- 370X24
- 385x24
- 396X24

Brake disc dimensions with 26 mm thickness

- 396x26

Brake disc dimensions with 28 mm thickness

- 328x28
- 380X28
- 398x28

Brake disc dimensions with 29 mm thickness

- 340x29

Brake disc dimensions with 30 mm thickness

- 332x30
- 335X30
- 340x30
- 348x30
- 370x30
- 380X30
- 402x30

Brake disc dimensions with 36 mm thickness

- 348x36
- 365x36
- 374x36
- 385x36
- 395x36
- 400X36
- 410X36

Brake disc dimensions with 38 mm thickness

- 400X38
- 400x38
- 410x38

Possible brake disc defects:



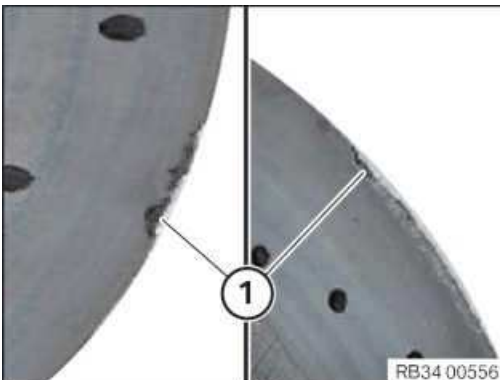
Figure shows faulty brake discs due to scoring.

Figure shows faulty brake discs due to corrosion.

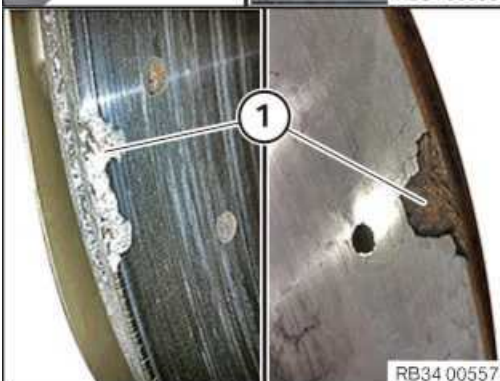


Figure shows faulty brake discs due to corrosion.

Potential carbon ceramic brake faults:



Sample image for flaking that is OK.



Sample image for flaking that is not OK (1)

Example fault patterns of edge flaking on the outer friction ring diameter due to improper handling = not OK → renew component!